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<110> Taramino, Graziana
Sakai, Hajime
Meeley, Robert B.
Niu, Xiaomu

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gac tac atg cag cag tcg ctg tac cac gcg ttc gag cag gcc ggc gcg	Asp Tyr Met Gln Gln Ser Leu Tyr His Ala Phe Glu Gln Ala Gly Ala	576
180	185	190
gac gac gac gac ggc cgg cag ggg tac ggc ttc gag gca gcg gcg gag	Asp Asp Asp Asp Gly Arg Gln Gly Tyr Gly Phe Glu Ala Ala Ala Glu	624
195	200	205
tcc tcg tcg ctc ggg gcg gag gag agc ggg tgg agg tcg tcg tcg ggg	Ser Ser Ser Leu Gly Ala Glu Glu Ser Gly Trp Arg Ser Ser Ser Gly	672
210	215	220
tac caa gac tgc gag gac ctg cag agc gtg gct tac gct tac ctg aac	Tyr Gln Asp Cys Glu Asp Leu Gln Ser Val Ala Tyr Ala Tyr Leu Asn	720
225	230	235
cat cgc tcg taa	His Arg Ser	732

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Lys Cys Val Arg Gly Cys Val Phe Ala Pro Tyr Phe Cys His Glu Gln
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Gly Ala Ala His Phe Ala Ala Ile His Lys Val Phe Gly Ala Ser Asn
35 40 45

Val Ser Lys Leu Leu Ala His Leu Pro Leu Ala Asp Arg Ala Glu Ala
50 55 60

Ala Val Thr Ile Ser Tyr Glu Ala Gln Ala Arg Leu Arg Asp Pro Ile
65 70 75 80

Tyr Gly Cys Val Ala His Ile Phe Ala Leu Gln Gln Gln Val Met Thr
85 90 95

Leu Gln Ala Gln Leu Ala Ser Leu Lys Ala Gln Ala Ala Gln Gly Gln
100 105 110

Gln Gly Val His Glu Asp Ala Lys Gly Tyr Val Gly Ser Ala Ala Ala
115 120 125

Glu Gln Leu Gly Tyr Gly Tyr Pro Trp Cys Ser Gly Asn Gly Gly Ala
130 135 140

Ala Ala Ala Ala Gly Ala Val Gly Ala Pro Ala Ala Gln Pro Gly Ala
145 150 155 160

Tyr Gly Asn Gly Ala His Glu Ser Leu Thr Ala Leu Leu Gly Ser Ser
165 170 175

Asp Tyr Met Gln Gln Ser Leu Tyr His Ala Phe Glu Gln Ala Gly Ala
180 185 190

Asp Asp Asp Gly Arg Gln Gly Tyr Gly Phe Glu Ala Ala Ala Glu
195 200 205

Ser Ser Ser Leu Gly Ala Glu Glu Ser Gly Trp Arg Ser Ser Ser Gly
210 215 220

Tyr Gln Asp Cys Glu Asp Leu Gln Ser Val Ala Tyr Ala Tyr Leu Asn
225 230 235 240

His Arg Ser

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aag tgc gtg cgc ggg tgc gtg ttc g^c cca tac ttc tgc cac gag caa 96
Lys Cys Val Arg Gly Cys Val Phe Ala Pro Tyr Phe Cys His Glu Gln
20 25 30
ggg g^c g^c c^c a^c t^c g^c g^c a^c a^a g^t g^t t^c g^g g^c g^c a^g a^a 144
Gly Ala Ala His Phe Ala Ala Ile His Lys Val Phe Gly Ala Ser Asn
35 40 45
gtg tcc aag ctg ctc g^c c^c a^c c^t g^c c^c t^c g^c g^a c^g c^c c^c g^a g^c 192
Val Ser Lys Leu Leu Ala His Leu Pro Leu Ala Asp Arg Pro Glu Ala
50 55 60
gcc gtc act atc tcc tac gag g^c g^a g^c g^c c^t c^c c^c g^a c^c atc 240
Ala Val Thr Ile Ser Tyr Glu Ala Gln Ala Arg Leu Arg Asp Pro Ile
65 70 75 80
tat ggc tgc gtc g^c c^c a^c a^t c^t g^c c^t c^a g^a g^c g^a g^t atg acg 288
Tyr Gly Cys Val Ala His Ile Phe Ala Leu Gln Gln Gln Val Met Thr
85 90 95
ctg cag g^c c^a g^c ctg g^c tc^t a^a g^c g^c g^c g^c g^c c^a g^g g^a a^t a^a 336
Leu Gln Ala Gln Leu Ala Ser Leu Lys Ala Ala Ala Ala Gln Gly Ile
100 105 110
cac cac cag gac gtc g^c g^c a^c a^c a^c a^a g^g g^c g^c g^c tac atg agc g^c 384
His His Gln Asp Val Gly Ala Thr Thr Lys Gly Gly Tyr Met Ser Ala
115 120 125
gcc gcc acc gcc gac gac gac caa tta g^g g^g tac g^g g^g tac aac cag 432
Ala Ala Thr Ala Ala Asp Asp Gln Leu Gly Tyr Gly Tyr Asn Gln
130 135 140
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Trp Cys Gly Ser Asn Gly Gly Ala Pro Ala Ala Ser Gln Pro Gly
145 150 155 160
g^c tat agc agc aat g^g t^c a^t c^c 528
Ala Tyr Ser Ser Asn Gly Gly Ala Gly His Gly His Asp Ser Ile Thr
165 170 175
g^c ctg ctg g^c g^c g^g g^g t^c g^g g^g t^c a^t g^g c^a c^a t^c g^c t^c t^c a^c c^a 576
Ala Leu Leu Ala Ala Gly Ser Asp Tyr Met Gln His Ser Leu Tyr His
180 185 190
g^c ttc gag c^c t^c g^c g^g g^g t^c g^g g^g g^g g^g g^g g^g g^g g^g c^a g^c 624
Ala Phe Glu His Ser Glu Gly Ala Gly Ala Val Asp Asp Gly His Ala
195 200 205
g^c gcc g^c g^c g^c t^c g^g g^g g^g g^g g^g g^g t^c g^c t^c g^c t^c g^c g^g atg 672
Ala Ala Ala Ala Phe Glu Ala Ala Ala Glu Ser Ser Ser Cys Gly Met
210 215 220
g^c g^c t^c g^c t^c g^c g^g g^g g^g g^g g^g g^g g^g g^g g^g t^c g^c t^c g^c t^c g^c t^c 720
Ala Ala Ser Phe Ala Ala Asp Glu Ser Val Trp Arg Ser Ser Ser Ser
225 230 235 240
g^g a^t c^a g^a t^c g^c g^g t^c g^c t^c g^c t^c 768
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Asn Arg Ser

<210> 8
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<212> PRT
<213> Oryza sativa

<400> 8

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Gly Ala Ala His Phe Ala Ala Ile His Lys Val Phe Gly Ala Ser Asn
35 40 45

Val Ser Lys Leu Leu Ala His Leu Pro Leu Ala Asp Arg Pro Glu Ala
50 55 60

Ala Val Thr Ile Ser Tyr Glu Ala Gln Ala Arg Leu Arg Asp Pro Ile
65 70 75 80

Tyr Gly Cys Val Ala His Ile Phe Ala Leu Gln Gln Gln Val Met Thr
85 90 95

Leu Gln Ala Gln Leu Ala Ser Leu Lys Ala Ala Ala Ala Gln Gly Ile
100 105 110

His His Gln Asp Val Gly Ala Thr Thr Lys Gly Gly Tyr Met Ser Ala
115 120 125

Ala Ala Thr Ala Ala Asp Asp Gln Leu Gly Tyr Gly Gly Tyr Asn Gln
130 135 140

Trp Cys Gly Ser Asn Gly Gly Ala Pro Ala Ala Ser Gln Pro Gly
145 150 155 160

Ala Tyr Ser Ser Asn Gly Gly Ala Gly His Gly His Asp Ser Ile Thr
165 170 175

Ala Leu Leu Ala Ala Gly Ser Asp Tyr Met Gln His Ser Leu Tyr His
180 185 190

Ala Phe Glu His Ser Glu Gly Ala Gly Ala Val Asp Asp Gly His Ala
195 200 205

Ala Ala Ala Ala Phe Glu Ala Ala Ala Glu Ser Ser Ser Cys Gly Met
210 215 220

Ala Ala Ser Phe Ala Ala Asp Glu Ser Val Trp Arg Ser Ser Ser Ser
Page 11

225

230

235

240

Gly Tyr Gln Asp Cys Glu Asp Leu Gln Ser Val Ala Tyr Ala Tyr Leu
245 250 255

Asn Arg Ser

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<223> Xaa can be any naturally occurring amino acid

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Lys Cys Val Arg Gly Cys Val Phe Ala Pro Tyr Phe Cys His Glu Gln
20 25 30

Gly Ala Ala His Phe Ala Ala Ile His Lys Val Phe Gly Ala Ser Asn
35 40 45

Val Ser Lys Leu Leu Ala His Leu Pro Leu Ala Asp Arg Xaa Glu Ala
50 55 60

Ala Val Thr Ile Ser Tyr Glu Ala Gln Ala Arg Leu Arg Asp Pro Ile
65 70 75 80

Tyr Gly Cys Val Ala His Ile Phe Ala Leu Gln Gln Gln Val Met Thr
85 90 95

Leu Gln Ala Gln Leu Ala Ser Leu Lys Ala Xaa Ala Ala Gln Gly
100 105 110

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Xaa Ala Xaa Ala Ala
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<400> 11

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1 5 10

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Glu Asp Leu Gln Ser Val Ala Tyr Ala Tyr Leu Asn
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<213> Zea maize

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24

<210> 19
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gctcaaaggc aaggcagtat tttt

24

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24

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20

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23

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Lys Cys Val Arg Gly Cys Val Phe Ala Pro Tyr Phe Cys His Glu Gln
20 25 30

Gly Ala Ala His Phe Ala Ala Ile His Lys Val Phe Gly Ala Ser Asn
35 40 45

Val Ser Lys Leu Leu Ala His Leu Pro Leu Ala Asp Arg Pro Glu Ala
50 55 60

Ala Val Thr Ile Ser Tyr Glu Ala Gln Ala Arg Leu Arg Asp Pro Ile
65 70 75 80

Tyr Gly Cys Val Ala His Ile Phe Ala Leu Gln Gln Gln Val Arg Ile
85 90 95

Val His Ser Ile Asp Val Ser Leu Val Gly Val Ala Gly Leu Leu Ile
100 105 110

Leu Val Ser Arg Arg Val Phe Glu Gln Val Met Thr Leu Gln Ala Gln
115 120 125

Leu Ala Ser Leu Lys Ala Ala Ala Gln Gly Ile His His Gln Asp
130 135 140

Val Gly Ala Thr Thr Lys Gly Gly Tyr Met Ser Ala Ala Ala Thr Ala
145 150 155 160

Ala Asp Asp Gln Leu Gly Tyr Gly Gly Tyr Asn Gln Trp Cys Gly Ser
Page 17

165

170

175

Asn Gly Gly Gly Ala Pro Ala Ala Ser Gln Pro Gly Ala Tyr Ser Ser
180 185 190

Asn Gly Gly Ala Gly His Gly His Asp Ser Ile Thr Ala Leu Leu Ala
195 200 205

Ala Gly Ser Asp Tyr Met Gln His Ser Leu Tyr His Ala Phe Glu His
210 215 220

Ser Glu Gly Ala Gly Ala Val Asp Asp Gly His Ala Ala Ala Ala Ala
225 230 235 240

Phe Glu Ala Ala Ala Glu Ser Ser Ser Cys Gly Met Ala Ala Ser Phe
245 250 255

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260 265 270

Cys Glu Asp Leu Gln Ser Val Ala Tyr Ala Tyr Leu Asn Arg Ser
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<211> 218

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<213> *Arabidopsis thaliana*

<220>

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<400> 27

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Phe Leu Arg Arg Lys Cys Ala Lys Gly Cys Val Phe Ala Pro Tyr Phe
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Cys His Glu Gln Gly Ala Ser His Phe Ala Ala Ile His Lys Val Phe
35 40 45

Gly Ala Ser Asn Ala Ser Lys Leu Leu Ser His Leu Pro Ile Ser Asp
50 55 60

Arg Cys Glu Ala Ala Ile Thr Ile Ser Tyr Glu Ala Gln Ala Arg Leu
65 70 75 80

Gln Asp Pro Ile Tyr Gly Cys Val Ser His Ile Phe Ala Leu Gln Gln
85 90 95

Gln Val Val Asn Leu Gln Ala Glu Leu Glu Ile Leu Lys Gln Gln Ala
Page 18

100	105	110				
Ala Gln Ser Met Ile Phe Ala Asp Ser Pro Thr Ser Glu Asn Pro Asn						
115	120	125				
Ser Tyr Tyr Gly Asp Thr Thr Lys Ala Pro Tyr His His Asp His Gln						
130	135	140				
Asn Ile Tyr His His Asp Gln Thr His Leu Val Tyr Gln Thr Gly						
145	150	155				
Ser Ser Gly Thr Val Gln His Gly Asp Ala Thr Glu Ser Ser Tyr His						
165	170	175				
Asn Glu Thr Ser Ser Gly Met Gly Glu Phe Ser Ile Tyr Ser Asp Leu						
180	185	190				
Glu Gln His Leu Asn Thr Phe Asn Gln Asp His Leu Lys Glu Leu Gln						
195	200	205				
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 <213> Zea Maize

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Lys Cys Val Arg Gly Cys Val Phe Ala Pro Tyr Phe Cys His Glu Gln	
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Gly Ala Ala His Phe Ala Ala Ile His Lys Val Phe Gly Ala Ser Asn	
35 40 45	
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Val Ser Lys Leu Leu Ala His Leu Pro Leu Ala Asp Arg Ala Glu Ala	
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Ala Val Thr Ile Ser Tyr Glu Ala Gln Ala Arg Leu Arg Asp Pro Ile	
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85 90 95	
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Leu Gln Ala Gln Leu Ala Ser Leu Lys Ala Gln Ala Ala Gln Gly Gln	
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Page 24

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